

## t25\_ftacell1

(TMQrYJXQCzf4ytDu89yR.JH99nPW3CyfGtzy)

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Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_gfacirc1 : \iota$  be given. Let  $k3\_msafree2 : \iota \Rightarrow \iota$  be given. Let  $k13\_ftacell1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k36\_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_twoscomp : \iota$  be given. Let  $k3\_gfacirc1 : \iota$  be given. Let  $k4\_twoscomp : \iota$  be given. Let  $k33\_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k24\_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_twoscomp : \iota$  be given. Let  $k21\_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_facirc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.k2\_xboole\_0 (k2\_xboole\_0 X0 X1) X2 = k2\_xboole\_0 X0 (k2\_xboole\_0 X1 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.k3\_msafree2 \\ & (k13\_ftacell1 X0 X1 X2 X3 X4) = k2\_xboole\_0 (k2\_xboole\_0 (k2\_xboole\_0 \\ & (k2\_tarski (k4\_tarski (k10\_finseq\_1 X0 X1) k4\_gfacirc1) (k36\_gfacirc1 \\ & X0 X1 X2)) (k2\_enumset1 (k4\_tarski (k10\_finseq\_1 X0 X1) k3\_twoscomp) \\ & (k4\_tarski (k10\_finseq\_1 X1 X2) k3\_gfacirc1) (k4\_tarski (k10\_finseq\_1 \\ & X2 X0) k4\_twoscomp) (k33\_gfacirc1 X0 X1 X2))) (k2\_tarski (k4\_tarski \\ & (k10\_finseq\_1 (k36\_gfacirc1 X0 X1 X2) X4) k4\_gfacirc1) (k24\_gfacirc1 \\ & (k36\_gfacirc1 X0 X1 X2) X4 X3))) (k2\_enumset1 (k4\_tarski (k10\_finseq\_1 \\ & (k36\_gfacirc1 X0 X1 X2) X4) k3\_gfacirc1) (k4\_tarski (k10\_finseq\_1 \\ & X4 X3) k3\_twoscomp) (k4\_tarski (k10\_finseq\_1 X3 (k36\_gfacirc1 \\ & X0 X1 X2)) k2\_twoscomp) (k21\_gfacirc1 (k36\_gfacirc1 X0 X1 X2) X4 \\ & X3)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & k4\_enumset1 X0 X1 X2 X3 X4 X5 = k2\_xboole\_0 (k2\_tarski X0 X1) (k2\_enumset1 \\ & X2 X3 X4 X5) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.(X6 = k4\_enumset1\ X0\ X1\ X2\ X3\ X4\ X5) \Leftrightarrow (\forall X7.(X7 \in X6) \Leftrightarrow \\ & (\neg(X7 \neq X0) \wedge ((X7 \neq X1) \wedge ((X7 \neq X2) \wedge ((X7 \neq X3) \wedge ((X7 \neq X4) \wedge (X7 \neq X5))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0\ X0\ X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k36\_gfacirc1\ X0\ X1\ X2 = k9\_facirc.1 \\ & X0\ X1\ X2\ k4\_gfacirc1 \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k24\_gfacirc1\ X0\ X1\ X2 = k9\_facirc.1 \\ & X0\ X1\ X2\ k4\_gfacirc1 \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ X1 = k2\_xboole\_0\ X1\ X0 \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(k4\_tarski \\ & (k10\_finseq\_1\ X0\ X1)\ k4\_gfacirc1 \in k3\_msafree2\ (k13\_ftacell1\ X0 \\ & X1\ X2\ X3\ X4)) \wedge ((k36\_gfacirc1\ X0\ X1\ X2 \in k3\_msafree2\ (k13\_ftacell1 \\ & X0\ X1\ X2\ X3\ X4)) \wedge ((k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k3\_twoscomp \in k3\_msafree2 \\ & (k13\_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k4\_tarski\ (k10\_finseq\_1\ X1\ X2) \\ & k3\_gfacirc1 \in k3\_msafree2\ (k13\_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k4\_tarski \\ & (k10\_finseq\_1\ X2\ X0)\ k4\_twoscomp \in k3\_msafree2\ (k13\_ftacell1\ X0 \\ & X1\ X2\ X3\ X4)) \wedge ((k33\_gfacirc1\ X0\ X1\ X2 \in k3\_msafree2\ (k13\_ftacell1 \\ & X0\ X1\ X2\ X3\ X4)) \wedge ((k4\_tarski\ (k10\_finseq\_1\ (k36\_gfacirc1\ X0\ X1\ X2) \\ & X4)\ k4\_gfacirc1 \in k3\_msafree2\ (k13\_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k24\_gfacirc1 \\ & (k36\_gfacirc1\ X0\ X1\ X2)\ X4\ X3 \in k3\_msafree2\ (k13\_ftacell1\ X0\ X1\ X2 \\ & X3\ X4)) \wedge ((k4\_tarski\ (k10\_finseq\_1\ (k36\_gfacirc1\ X0\ X1\ X2)\ X4)\ k3\_gfacirc1 \in \\ & k3\_msafree2\ (k13\_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k4\_tarski\ (k10\_finseq\_1 \\ & X4\ X3)\ k3\_twoscomp \in k3\_msafree2\ (k13\_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge \\ & (k4\_tarski\ (k10\_finseq\_1\ X3\ (k36\_gfacirc1\ X0\ X1\ X2))\ k2\_twoscomp \in \\ & k3\_msafree2\ (k13\_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge (k21\_gfacirc1\ (k36\_gfacirc1 \\ & X0\ X1\ X2)\ X4\ X3 \in k3\_msafree2\ (k13\_ftacell1\ X0\ X1\ X2\ X3\ X4)))))))))) \end{aligned}$$